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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/724,744

12/02/2003

Shih Ting Tsceng

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EXAMINER

RIGGLEMAN, JASON PAUL

ART UNIT

PAPER NUMBER

1746

MAIL DATE

DELIVERY MODE

10/04/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/724,744

Applicant(s)

TSENG ET AL.

Examiner

Jason P. Riggleman

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>Foreign reference</u> . |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/13/2007 has been entered.

Status of Claims

2. Applicant's amendments, filed 9/13/2007 have been received. Current pending claims are claims 1-6 and 15. Claims 1 and 5 are currently amended. Claims 2-4 are original. Claims 7-14 are cancelled. Claim 15 is new.

Response to Arguments

3. Applicant's arguments filed 9/13/2007 have been fully considered but they are not persuasive with regards to the 103 (a) rejections of claims 1-6 and 15 over Nishimura et al. (Japanese Patent Application Publication No. 10-034054). The applicant argues that the roughening unit (plural projection parts 16a formed in the inside of the guard means -- spin cup) does not constitute a filtration film. The examiner disagrees since Fig. 1 of Nishimura et al. shows a guard means (cup 6) which has a filtration film (16a) covering the entire inner surface --- including the upper periphery which makes the liquid easy to adhere to -- easy to enter (grooves) -- hard to exit (grooves).

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawashima (JP Patent Publication No. 60161767A).

5. Kawashima teaches an apparatus for splash-back proofing adopted for a substrate. There is a rotating device 7 for holding and rotating a substrate. There is at least a liquid spray unit mounted on one side of said rotating device for spraying a liquid to the substrate (inherent). There is a guard means 12 surrounding part of the rotating device for preventing the liquid from scattering to an outer portion of the rotating device. There is a filtration film (mesh 15) mounted at an upper periphery of the guard means to filtrate the liquid for preventing the liquid hitting against the guard means from splashing back. The substrate is a silicon wafer 1. The liquid is a developer. The apparatus is applied to developing apparatus.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura (JP Patent Application Publication No. 10-034054).

2. Nishimura teaches a device which may be used to apply a resist solution to a wafer in the manufacture of semiconductor devices. The spin-chuck 3, Fig. 4, holds the semiconductor wafer 4. A liquid spray unit, nozzle 5, is supplied for spraying a liquid developer (resist) to the wafer W and a guard means is supplied by a spin cup 6, Fig. 4. The inside surface 16a of the spin cup 16 has a finished surface with "wave-like" hatching, Fig. 1, – this feature increases the surface area of the inside of the cup and provides the effect that liquid more strongly adhered to the surface of the spin cup and rebounding of the solution is decreased paragraph [0018] and abstract (of JPO machine translation) – thus filtrating the liquid. The apparatus is capable of use with a developing apparatus (resist coating device).
3. In regards to claim 1, Nishimura et al. does not teach a separate filtration film and guard means; however, it has been held that it would have been obvious to make elements integral (In re Wolfe 116 USPQ 443). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Nishimura et al. to create a detachable filtration film to replace the part if broken or dirty.
4. In regards to claims 4-5, the use of stainless steel as an engineering material is well known and common for applications where strength and corrosion resistance are desired. Nishimura et al., as modified above, does not teach a sponge-like filtration film or web made of stainless steel; however, it would have been obvious to one of ordinary skill in the art to modify the web-type splash guard of Nishimura et. al, as modified above, such as to make it of stainless steel. This would create a guard made of a

traditional material well known to have excellent strength and to be resistant to corrosion or harsh conditions.

5. In regards to claim 15, Nishimura et al., as modified above, does not teach a film thickness of 1 to 20 mm; however, it has been held that cause effective variables are obvious without a showing of criticality (*In re Woodruff* 16 USPQ 2d 1934). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Nishimura et al., as modified above, to create an effective filtration film for the particular solvent and speeds being used to clean the wafer.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason P. Riggelman whose telephone number is 571-272-5935. The examiner can normally be reached on M-F, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jason P Riggleman
Examiner
Art Unit 1746

JPR



MICHAEL BARR
SUPERVISORY PATENT EXAMINER